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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/667,262	09/19/2003	Max Rothenfusser	2003P08879US	5964

7590 10/13/2005  
Siemens Corporation  
Intellectual Property Department  
170 Wood Avenue South  
Iselin, NJ 08830

EXAMINER
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GAGLIARDI, ALBERT J

ART UNIT	PAPER NUMBER
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2878

DATE MAILED: 10/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/667,262	Applicant(s) ROTHENFUSSER ET AL.	
	Examiner Albert J. Gagliardi	Art Unit 2878	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 18 September 2005.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>9/03, 2/05</u>  | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Information Disclosure Statement***

1. In the IDS filed 19 September 2003, the reference to application 10/243,009 has not been considered because it is not a publication. For applicant's convenience, the corresponding Patent Application Publication has been listed by the examiner on Form 892.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 9 recites the limitation "the liquid". There is insufficient antecedent basis for this limitation in the claim. The examiner notes that "a liquid" is recited in claim 8, which is not in the chain of dependency.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Monchalin (US 4,607,341) in view of Thomas *et al.* (US 6,236,049 B1).

Regarding claim 1, *Monchalin* discloses a method of acoustic (ultrasonic) thermal analysis comprising applying a material to a specimen (1) to be tested, the material the material being thermally responsive to acoustic energy transmitted to the specimen by an acoustic analysis system (col. 5, lines 23-25); and processing a thermal response of the material when acoustic energy is applied to the specimen by the acoustic analysis system (col. 5, lines 25-27).

Regarding the acoustic system being an acoustic thermography system, it is notes that while *Monchalin* does not specifically identify the system as a thermography system, acoustic thermography systems are well known (see for example *Thomas* at Fig. 1) for use in analysis of samples. Those skilled in the art appreciate that thermography systems utilizing an infrared camera such as disclosed by *Thomas* allow for larger areas to be analyzed with less scanning than would be required with the infrared temperature sensor disclosed by *Monchalin*. Therefore, absent some degree of criticality, it would have been obvious to a person of ordinary skill in the art to modify the system suggested by *Monchalin* to utilize an thermal imaging camera so as to allow for a thermographic image of a larger area of the sample to be evaluated with less scanning.

In addition, *Thomas* teaches that it is difficult to couple ultrasonic energy into some materials (col. 2, lines 15-19), suggesting that inefficient coupling would lead to less accurate analysis. Therefore it would have been obvious to a person of ordinary skill in the art to

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combine the systems disclosed by *Thomas* and *Monchalin* so as to allow for an improved thermography system that is able to monitor the amount of ultrasonic energy absorbed by the sample to insure that sufficient ultrasonic energy is properly coupled into the sample, and thereby insure more accurate analysis.

Regarding claim 2, *Monchalin* further discloses collecting data indicative of a thermal response of the material when the acoustic energy is applied; and correlating the thermal response of the material to an amount of acoustic energy applied to the specimen (see generally col. 5, lines 23-27 and lines 37-46).

Regarding claims 3-4, although not specifically disclosed, steps of comparing the amount of acoustic energy applied to the specimen to a desired amount necessary for inspecting, and generating an indication of whether or not the amount of acoustic energy applied to the specimen appropriately meets the desired amount of acoustic energy for inspecting the specimen are considered as obvious steps that would have been within the skill of a person of ordinary skill in the art in view of both the known desire to measure the amount of energy (*Monchalin* at col. 2, lines 19-20), and the known difficulty with coupling enough energy into the specimen (*Thomas* at col. 2, lines 18-20) since it would be appreciated that failure to couple enough energy into the sample would result in less accurate analysis.

Regarding claims 5-6, *Monchalin* further discloses that the material may comprise an adhesive tape or other material highly absorbing of acoustic energy (col. 5, lines 27-29). Absent some degree of criticality, the choice of any of a materials such as fluids, plastic foams, viscoelastic materials, powders, etc., would have been a matter of routine design choice since at

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least some materials within the listed groups are inherently highly thermally responsive to acoustic energy.

Regarding claim 7, *Monchalin* discloses collecting data of a thermal response of the material and correlating the thermal response of the material to determine whether a particular property is present in the specimen (abstract; col. 5, lines 41-52; col. 11, lines 33-59). *Thomas* further suggests the detection of flaws (abstract).

Regarding claims 8-11, the steps of applying the particular material are considered obvious in view of the variety of possible materials that are known to be thermally responsive to acoustic energy (see explanation regarding claims 5-6 above).

Regarding claims 12-15, the method recited according to claims 12-15 is suggested by the method suggested by *Monchalin* and *Thomas* as applied above and rejected accordingly.

### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

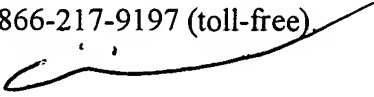
8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Albert J. Gagliardi whose telephone number is (571) 272-2436.

The examiner can normally be reached on Monday thru Friday from 9 AM to 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David P. Porta can be reached on (571) 272-2444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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9. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Albert J. Gagliardi  
Primary Examiner  
Art Unit 2878

AJG